



Avian Influenza Case Study

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DEQ's Role

- Implementation of Environmental Protection Regulations
- Provided assistance in locating disposal sites
- Responded to local government, grower, and community concerns about disposal activities
- Staff oversight of disposal activities
 - 40+ staff involved
 - 6,000+ hours of regular staff time
 - 1,000 hours of overtime

Other Agencies and Parties

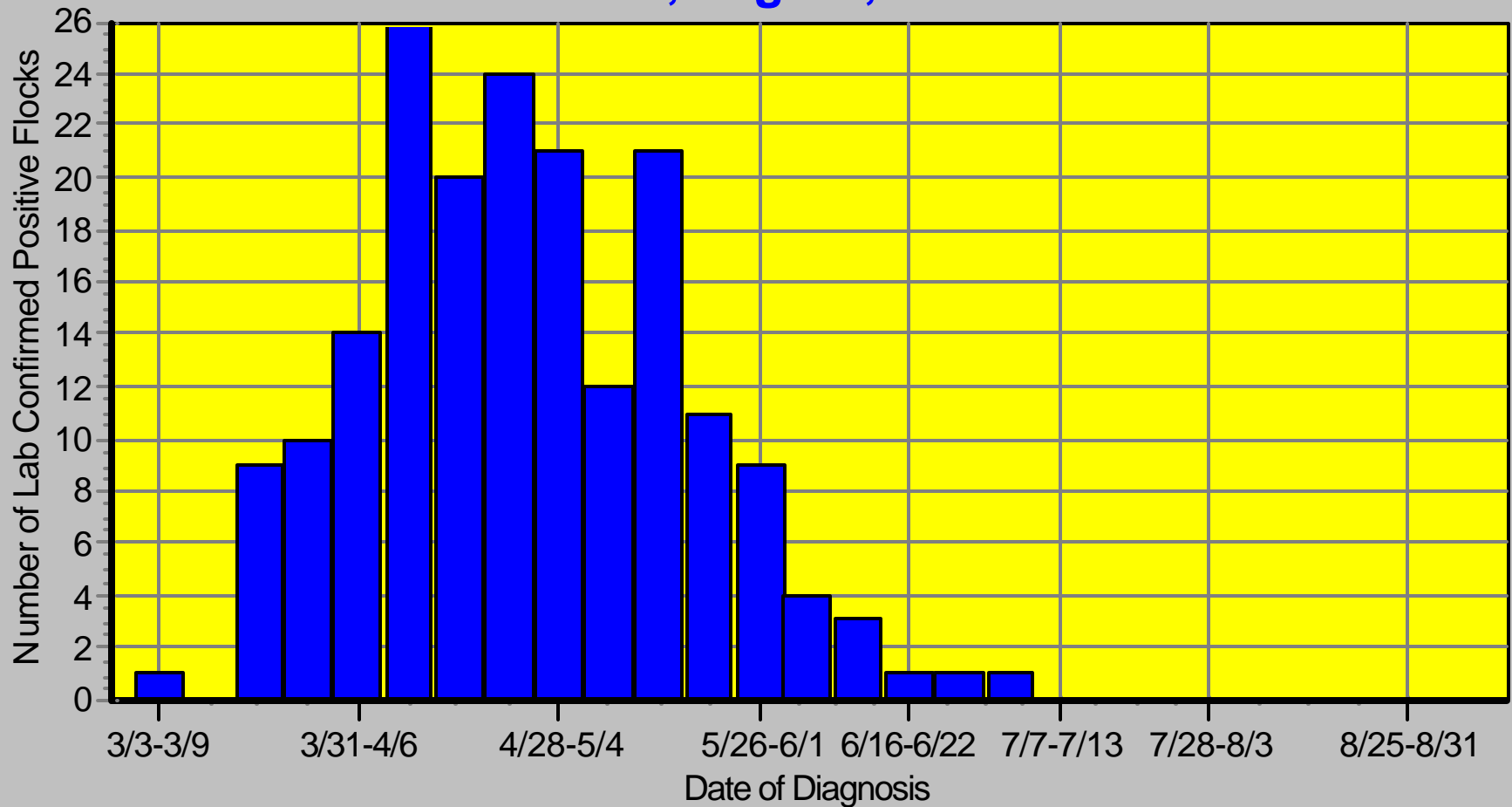
- VA Dept. of Agriculture
- USDA
- Poultry industry
- County governments
- Waste management facilities

2002 Avian Influenza Outbreak Synopsis

- Outbreak first detected March 2002, and spread rapidly
- Ultimately, the outbreak affected 4.7 million birds
- During the 1983 outbreak, most birds were managed on small farms
- This outbreak was significantly larger (over 197 farms) -- the farm disposal option soon proved to be inappropriate

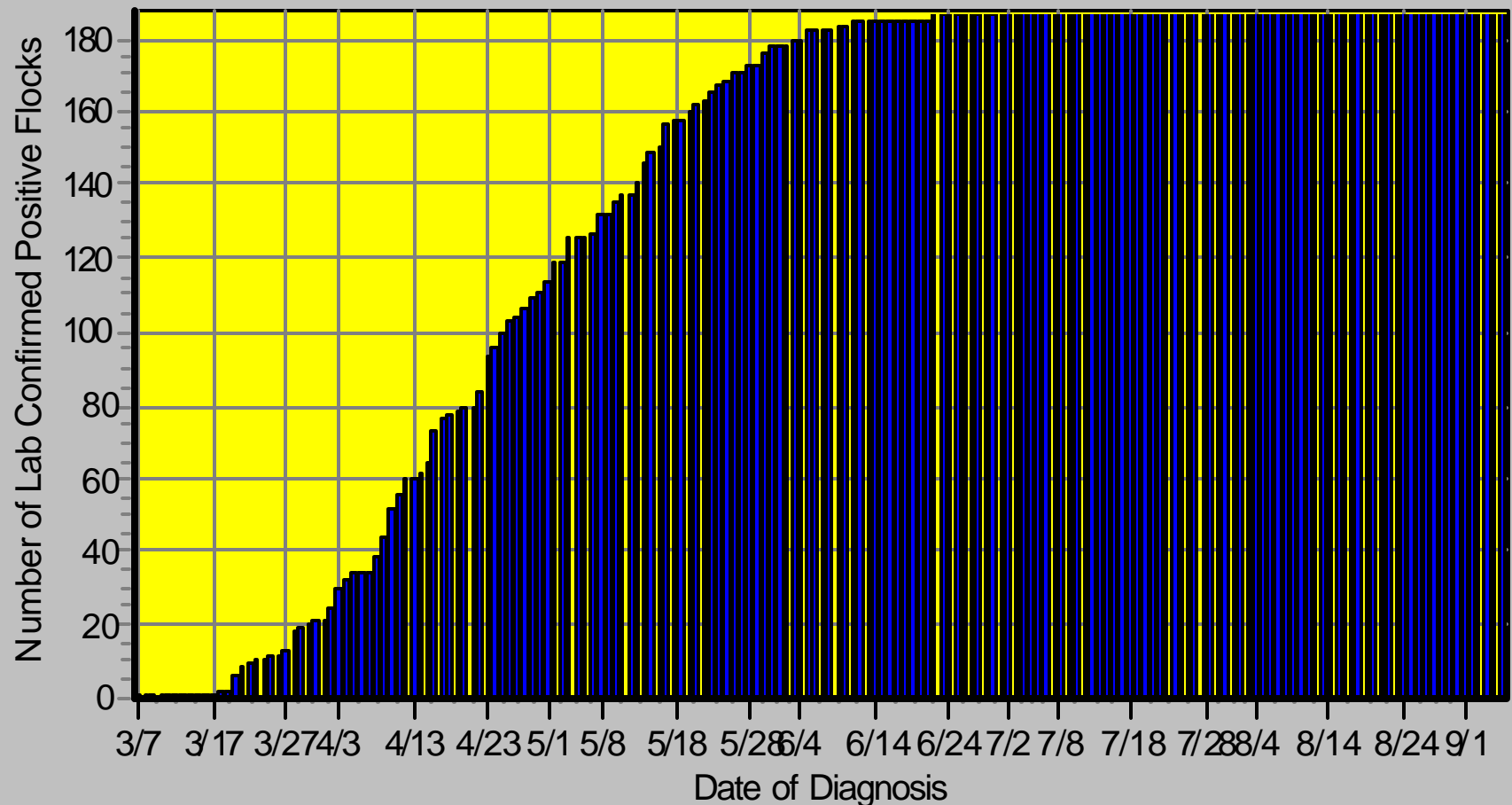
Outbreak Progression

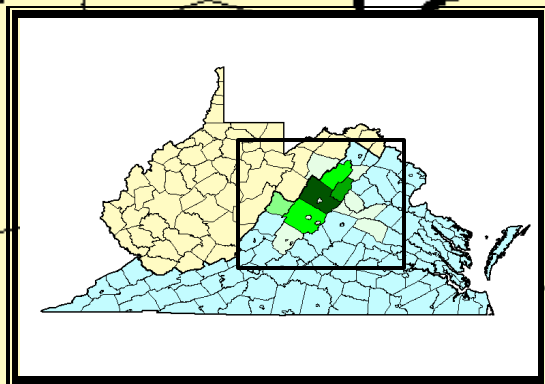
Weekly Epidemic Curve
Avian Influenza, Virginia, 3/7/02 to 9/6/02



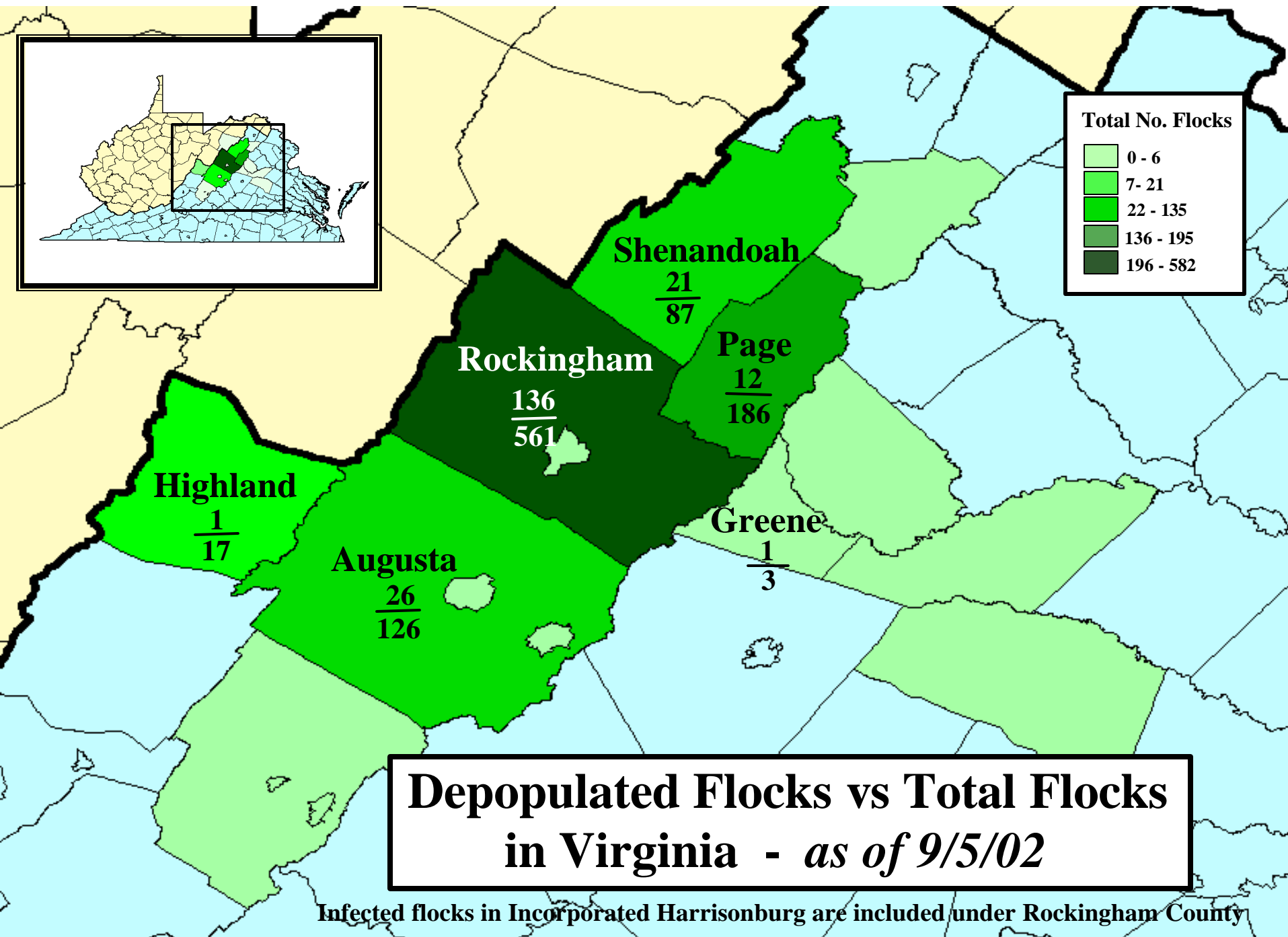
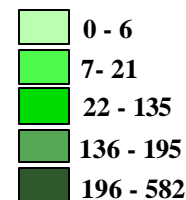
Outbreak Progression

Cummulative Epidemic Curve
Avian Influenza, Virginia, 3/7/02 to 9/6/02





Total No. Flocks



Possible Management Options

- Controlled Slaughter and Use
 - Processing for meat/food
 - Rendering for by-products (pet food, oils)
- Composting
- Incineration/Combustion
- Landfilling in a permitted facility
- On-site burial under emergency permit

CONCERNS AND CONSIDERATIONS

Controlled Slaughter

- Threat of spreading virus through transport of live birds
- Potential threat of contaminating processing plant
- Perception of “tainted” product being sold
- Negative media and business exposure

CONCERNS AND CONSIDERATIONS

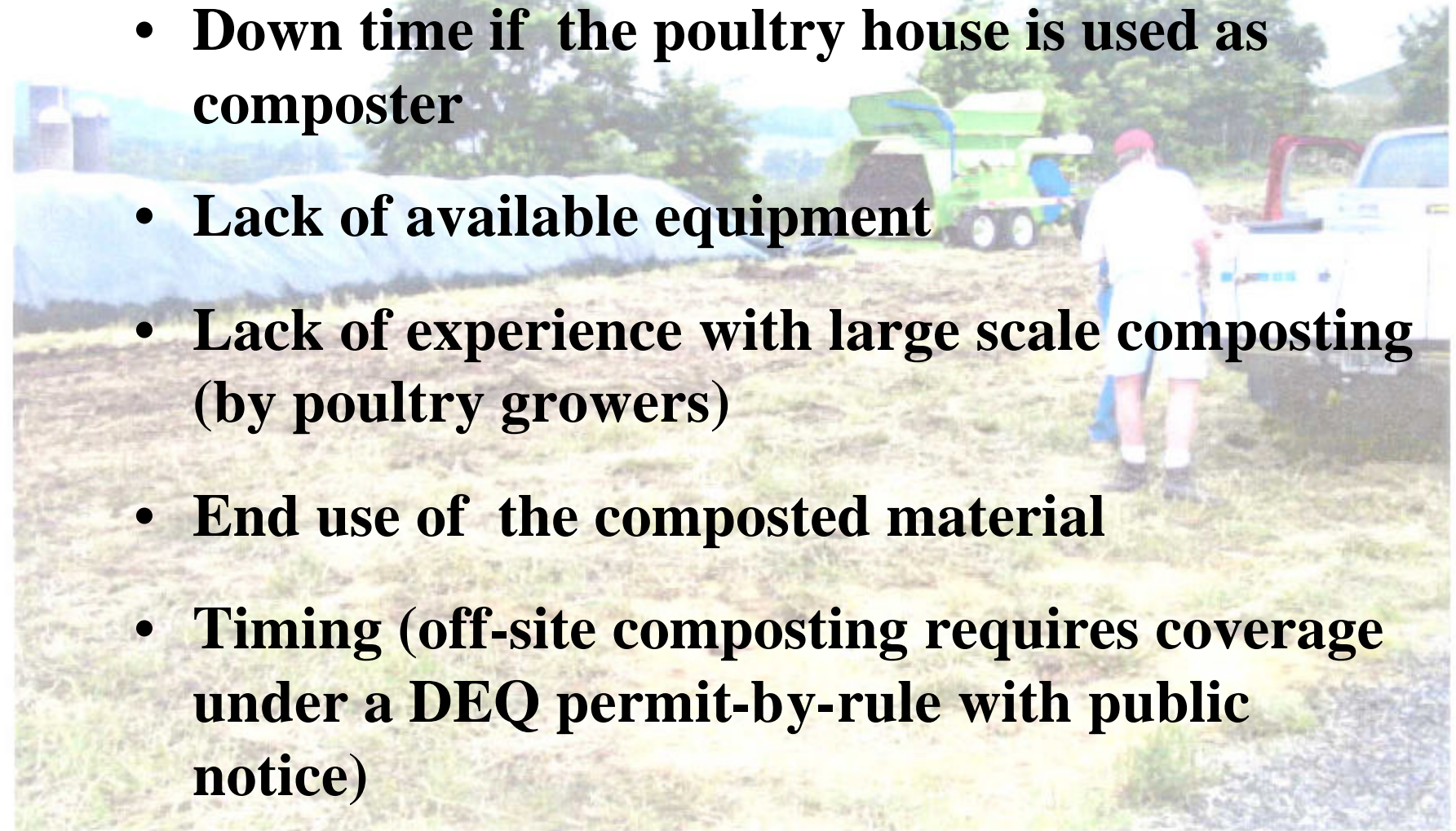
Rendering

- Threat of spreading virus through transport
- Potential threat of contaminating rendering plant: decontamination concerns
- Rendering facility hesitation to accept infected animal carcasses
- Capacity of rendering facilities

CONCERNS AND CONSIDERATIONS

Composting

- **Down time if the poultry house is used as composter**
- **Lack of available equipment**
- **Lack of experience with large scale composting (by poultry growers)**
- **End use of the composted material**
- **Timing (off-site composting requires coverage under a DEQ permit-by-rule with public notice)**





CONCERNS AND CONSIDERATIONS

Incineration/Combustion

- **Limited availability of equipment**
- **Physical limitations on incinerator throughput**
- **Transportation, equipment rental, processing costs**
- **Negative media exposure and local public opposition**
- **Air quality issues**

CONCERNS AND CONSIDERATIONS

Landfilling

- **Proper transportation packaging**
- **Availability of transportation equipment**
- **Willingness of landfills to accept the waste-stream**
- **Cost**
- **Environmental Protection Controls at Permitted landfills**
 - **e.g. liners, leachate collection, decontamination equipment, trained personnel**

CONCERNS AND CONSIDERATIONS

On-site burial

- Limited or no environmental controls
- Burial of poultry carcasses has caused known environmental problems
 - groundwater contamination
- Limited space available
- Requires an emergency permit
- Potential impact on property values
 - permits included deed notation requirement

Management Options Used

(4.7 million birds total)

- Landfilling - 5 landfills accepted 3,200,000 birds
- Slaughter - 943,000 birds
- Incineration - 4 mobile incinerator units processed 640,000 birds
- Composting - 2 USDA “Ag Bag” composters and traditional methods used to processed 30,000 birds
- On-site burial at 2 farms

Cooperating Solid Waste Disposal Facilities

- Atlantic Waste/Sussex Co. Sanitary Landfill
- Rockingham County Sanitary Landfill
- Frederick County Sanitary Landfill
- Page County/Battle Creek Sanitary Landfill
- Charles City County Sanitary Landfill

Other Management Methods

- Obtained through USDA contract:
 - 4 air-curtain destructor mobile incinerator units
 - 2 AgBag Composters
- In-house composting at one farm
- DEQ initially issued 2 on-site emergency disposal permits

Issues Encountered by DEQ

- No grower or integrator had written plans for whole flock die-off as required by 2 VAC 5-200-50.A ...

(excerpt) No person shall engage in the raising or keeping of poultry for profit ... unless he files with the State Veterinarian a plan...for the disposal of an entire flock of dead poultry.

Issues Encountered by DEQ

- No grower or integrator had pre-arranged disposal outlets readily available as required by 2 VAC 5-200-30.A ...

(excerpt) It shall be unlawful for any person to engage in the raising or keeping of poultry for profit ... unless ... access to:

1. A disposal pit; *(comment: this would require a DEQ emergency permit)*
2. An incinerator;
3. A renderer through a bona fide contract for rendering;
4. A landfill, through a bona fide contract for the disposal of dead poultry therein

Issues Encountered by DEQ

- Poor incident command structure *initially*
 - communications
 - equipment, logistics, and protocols
 - delegation of duties
 - resource acquisition
 - central clearing house for information
 - local government relations
 - disposal resources and landfill cooperation

Issues Encountered by DEQ

- Lack of pre-planning by all parties considering past history of AI incidents
- Protocol changes amidst crisis or no written protocols at governing agencies
- Bio-security
- Manpower resources for response oversight

Recommendations

- Development of written protocols so state agencies are better prepared to respond to future incidents
 - communications
 - assignment of response duties and delegation of needed authorities
 - resource acquisition
 - central clearing house for information
 - clear guidance on regulatory requirements
 - local government relations
 - disposal resources and landfill cooperation

Recommendations, cont'd.

- Grower and integrator plans need to provide for appropriate disposal of large-scale mortality
 - 2 VAC 5-200-50.A requires disposal plans for commercial poultry operations and contractors
 - DEQ will work with VDACS and industry representatives to ensure these plans meet both biosecurity and environmental protection concerns.
- Growers and integrators need to pre-arrange disposal outlets
- Development of better disposal options
 - pilot test on in-house windrow composting, use of Ag Bag Compost systems, etc.

Recommendations, cont'd.

- Local solid waste management plans should address this waste stream
- Government, poultry industry, and waste management representatives need to work to ensure that the proper management facilities will be available
- Continuation of VA Poultry Disease Task Force to improve preparation for future incidents